The Need for Guidance on The Precautionary Approach and The Proposed National Standard Guidelines

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Abstract.- The most recent assessment of stocks subject to the jurisdiction of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) indicated that 96 of 279 species for which information was available are "overfished" or are approaching an overfished condition. The status of an additional 448 species relative to overfishing is unknown. The benchmark against which overfishing was measured in this compilation was generally recruitment overfishing, suggesting that recruitment failures are potentially imminent, unless dramatic action is taken to reverse this condition. This comes at the culmination of 20 years of active management of the fisheries supported by these species pursuant to the Magnuson-Stevens Act. Further, this 20-year period of management has brought with it the first ever listings of fishes in the U.S. beyond the freshwater environment (several salmonid stocks in the Pacific Northwest) as threatened and endangered under the Endangered Species Act. In short, the record of marine fisheries management by the Federal Government does not have many success stories. NMFS has been presented with a tremendous opportunity to reverse the current situation. The Sustainable Fisheries Act of 1996 fundamentally changed the Magnuson-Stevens Act by integrating the internationally adopted precautionary approach throughout its provisions. Among those provisions are the National Standards for fishery conservation and management and the guidelines that must be developed by NMFS to assist the Regional Fishery Management Councils in developing Fishery Management Plans and amendments thereto. The revision of the existing guidelines is currently underway. Once completed, they will form the basis upon which determinations will be made that can lead to ending overfishing and rebuilding overfished stocks within statutorily specified time frames and in a way that minimizes the impact on fishermen and dependent communities and economies during the transition to sustainable fisheries. Technical guidance is needed to assist fishery managers in the development of conservation and management measures that will accomplish this transition.

Introduction

Marine, estuarine, and anadramous fishes support economically and socially important capture fisheries throughout the world, including the United States. While complete employment statistics for the global fisheries sector are not available, it is estimated that about 120 million people are partly or wholly economically dependent upon it (FAO 1995). These fish have a variety of uses in our society, including supplying commercial markets for human and animal food, satisfying subsistence and cultural needs, and providing recreational opportunities. The impact of the fishing mortality that results, both directly and indirectly, is now recognized globally as having a major effect on stocks. Fishing kills in excess of 100 million metric tons annually (FAO 1995); the exact amount may even exceed 200 million metric tons when recreational, subsistence, and release mortality are considered.

Marine capture fisheries are popularly considered to be at the brink of disaster (Mace 1996). FAO (1995) has concluded that almost 70% of those stocks of marine fisheries for which assessments are available are being harvested at or beyond the maximum sustainable yield (MSY). Further, it was concluded at the Kyoto International Conference on Sustainable Contribution of Fisheries to Food Security held in 1995 by Japan and FAO that there is a considerable danger that overfishing will continue and worsen. The continuing increase in the number and capacity of fishing vessels resulting, in part, from technological advances, stands as the single most directly controllable factor affecting overfishing (Mace 1996). Indeed, the FAO Kyoto conference concluded that the pervasive cause of non-sustainable resource use is the free and open access to resources (FAO 1995). Further, the impacts of overcapacity that result become exacerbated when coupled with natural and man-induced environmental perturbations.

In the U.S., the situation is no less dire. The most recent assessment of stocks subject to the jurisdiction of the Magnuson- Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) indicated that 96 of 279 species for which information was available are "overfished" or are approaching on overfished condition. The status of an additional 448 species relative to overfishing is unknown. The benchmark against which overfishing was measured in this compilation was generally recruitment overfishing, suggesting that recruitment failures are potentially imminent unless dramatic action is taken to reverse this condition.

The views expressed herein are those of the author, not necessarily NMFS'

A Need for Stronger Management

A sense of urgency has developed. FAO's 1995 conference in Kyoto, Japan concluded that "*If it is assumed, under the most pessimistic assumption regarding future supply, that governments and resource users take no action to reverse the disastrous level of overfishing and degradation of coastal environments, the supply of fish for direct human consumption from marine capture fisheries could fall to 40 million metric tons in 2010; certain stocks would be likely to collapse.*" If the world's fisheries are to be rescued from the "brink of disaster", action must be swift and decisive.

The U.S. Congress has concluded this situation applies similarly to U.S. fisheries. In the Findings section of the Sustainable Fisheries Act of 1996, Congress stated,

> "*(2) Certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened as a consequence of (A) increased fishing pressure, (B) the inadequacy of fishery resource conservation and management practices and controls, or (C) direct and indirect habitat losses which have resulted in a diminished capacity to support existing fishing levels.*"

This comes at the culmination of 20 years of active management of the fisheries supported by these species pursuant to the Magnuson-Stevens Act. Further, this 20-year period of management has brought with it the first ever listing of fishes in the U.S. that extend beyond the freshwater environment (several salmonid stocks on the West Coast) as threatened and endangered under the Endangered Species Act. In short, the record of marine fisheries management by the Federal government does not have many success stories.

The causes for the current status of these fisheries are many. But, they begin with the optimistic view generally held for centuries that fishing mortality, especially on marine stocks, was unlikely to be a significant factor in reducing stock size. This conclusion failed to anticipate the phenomenal technological advances that have occurred during the latter half of this century and the demand for seafood and recreation that an exponentially expanding population has imposed on fish. As a result, U.S. fisheries management has focused on developing and Americanizing fisheries with few, if any, constraints to protect against (i.e., prevent) overfishing. As fisheries have developed, the response has generally been reactionary at best (i.e., wait until overfishing is documented to have occurred before initiating effective fishing restrictions). Even the criteria against which the need for management (i.e., restrictive regulations) is determined has reflected the confidence that serious fishing reductions are probably seldom needed. The minimum biological level necessary for stocks to replace themselves is the current threshold used to define overfishing in most fishery management plans (Rosenberg et al. 1996). The appropriateness of this threshold requires that rapid management action be taken when it is crossed, a result seldom achieved in the Act's 20 year history.

I should inject that the generalized picture presented to this point is just that, a generalization. There are exceptions. In fact, the status of Alaska's fish stocks is typically used as the example of the results that "proper", conservative management can produce. Perhaps there is reason to think that we can do better.

An Opportunity for Change

NMFS has been presented with a tremendous opportunity to reverse the current situation. The Magnuson-Stevens Act was fundamentally changed in 1996 by the integration of the internationally adopted precautionary approach throughout its provisions. Examples of this are the National Standards for fishery conservation and management and the guidelines that must be developed by NMFS to assist the Regional Fishery Management Councils in developing FMP's and amendments thereto. However, the Magnuson-Stevens Act does not explicitly state that the precautionary approach is to be taken in future fisheries management.

The Magnuson-Stevens Act requires that U.S. fisheries be managed pursuant to fishery management plans (FMP's) developed by eight regional fishery management councils or the Secretary of Commerce. These FMP's are to be consistent with 10 conservation and management national standards (section 16 USC, 1851, section 301(a)). These standards are rather generic and leave much to interpretation. Therefore, the Magnuson-Stevens Act also requires the Secretary to establish advisory guidelines (guidelines) that do not have the force and effect of law to assist in the development of FMP's (16 USC, 1851 section 301(b)). The requirement for these guidelines is not new; previous guidelines for 7 of the 10 national standards have existed since 1977.

The existing guidelines have been in place since 1989, and their revision is currently occurring. After a very extensive intra-NOAA process, proposed guidelines were published in the Federal Register on August 4, 1997, for a 45-day comment period. The public comment period on national standard 1 guideline was reopened for 30 days on December 29, 1997. The proposed guidelines attempt to define and expand considerably on the Magnuson-Stevens Act's requirements. Once completed, they will form the basis upon which

determinations will be made that can lead to ending overfishing and rebuilding overfished stocks within statutorily specified time frames and in a way that minimizes the impact on fishermen and dependent communities and economies during the transition to sustainable fisheries.

The Work Ahead

However, there remains the need to translate the conceptual aspects of the guidelines to the operational level. This need was recognized in the proposed guidelines, specifically as it relates to optimum yield (OY) because (1) OY must now be no higher than MSY for all stocks; and (2) for overfished fisheries (stocks), OY must be based upon a rebuilding schedule that increases stock levels to those that would produce MSY. These changes in the Magnuson-Stevens Act are considered by NMFS to be expressions of a precautionary approach, the specification of which can be a complicated exercise. As such, the technical guidance that will result from this workshop is intended to supplement the national standard guidelines. It is important to note that this guidance should not necessarily be limited to only OY and National Standard 1. There are 10 national standards, and our lack of scientifically sound information is greater for the non-biological aspects of fisheries than for the biological ones.

The likelihood of achieving success during the next 3 days would have been much more certain had the new national standard guidelines been finalized. Unfortunately, they have not been; so we find ourselves in exactly the same situation as is all too often the case in fisheries management: decisions in the face of incomplete, imprecise, and uncertain information. It is exactly this uncertainty that dictates the need for guidance to implement the precautionary approach beyond the conceptual level of the Magnuson-Stevens Act and the national standard guidelines.

As I indicated earlier, the Magnuson-Stevens Act does not explicitly state that the precautionary approach is to be the foundation for U.S. fisheries management. This conclusion is drawn from the changes made to specific sections of the Act like those relating to OY, the new rebuilding requirements for overfished fisheries, and the new requirements concerning fishing gear. The conclusion is further supported by debates in both the U.S. House of Representatives, and the Senate, and by the U.S. adoption of the United Nations Code of Conduct for Responsible Fisheries. It is the lack of an explicit statement in the Magnuson-Stevens Act, and its requirements for national standard guidelines that create the need for technical guidance for applying the precautionary approach with respect to the national standards.

There are several areas for which specific technical guidance appears most needed. These include: MSY estimates, MSY control rule, OY estimates, inclusion of estimates of fishing mortality from all sources (directed, incidental, research, and other exempted fishing activities), lack of stock assessments, mixed stock fisheries, rebuilding plans, bioeconomic modeling, and aquaculture. I am optimistic that the results of your efforts over the next 2 days will produce invaluable technical advice with which fisheries managers can achieve the societal desire to reverse the current status of U.S. marine fisheries.

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